as an example of this latter feature only the very first essay in the volume, that on the migrations of birds. Then, as regards some moot points of natural history, the student will do well to turn from the pages of his "Wallace" or "Darwin" and compare what they have said with what Blackwall here tells us concerning the notes and instincts of birds in reference to the question so often raised as to their being innate or acquired. The Cuckoo furnishes the subject of a long and interesting article; and when to this we add that other pages are specially devoted to the problems of birds becoming torpid, deserting their young (like the Swallow), and diving, as do many aquatic species, we have, while omitting to mention some shorter essays, said enough to show that the interests of the ornithologist have not been neglected; and turning next (at page 184) to the growth of the Salmon and of the Sewin, we may make the same remark also in reference to the student of fishes.

Our space will only suffice for mentioning that the remaining pages are devoted chiefly to observations upon insects and Spiders, in which last group we encounter Blackwall upon a field of inquiry that, in the pages of this Journal and elsewhere, he may be said to have made peculiarly his own. If any one asks himself, how the gossamer spider manages to float through the air, or how the geometric species contrive to make their nets, he will turn in vain to many a goodly-looking volume of natural science or of comparative anatomy for any thing approaching an intelligible or satisfactory answer. But here, in Mr. Blackwall's volume, the reader will find a solution of much of, and more than, what he is in search after. In many cases, too, both *observation* and *direct experiment* have been brought to bear upon the points immediately under investigation; and it is by this double process that our author determines the means by which various animals adhere to or move upon polished vertical surfaces, and whether the poison of spiders is as fatal instantaneously to their prey as it is commonly supposed to be. A valuable paper on the structure and economy of spiders concludes a volume of no less than twenty-five separate essays, out of which we have, for the purpose of this cursory notice, made mention only of a few. To the reader we will only add, get the book itself. As a contribution to our zoological literature of an independent kind Blackwall's pages stand alone—a type the like of which we would, in this age of improved biological speculation, gladly see more of.

On some Remarkable Forms of Animal Life from the Great Deep off the Norwegian Coasts.—I. *Partly from the Posthumous Manuscripts of the late Prof. Dr. Michael Sars.* By George Ossian Sars. Christiania, 1872. 4to, pp. 82, with six copper plates.

This work is written in English, with the characters of the genera and species in Latin. It contains the descriptions of:—two species of Polyzoa (1. *Rhabdopleura mirabilis*, 2. *Flustra abyssicola*); two Conchifera (1. *Yoldia obtusa*, 2. *Pecchiolia abyssicola*); three Cephalophora (1. *Dentalium agile*, 2. *Triopa incisa*, 3. *Gonieolis typica*);

two Annelida (1. *Umbellisyllis fasciata*, 2. *Paramphinome pulchella*); two Anthozoa (1. *Mopsea borealis*, 2. *Fungiacyathus fragilis*); three Spongiæ (1. *Trichostemma hemisphæricum*, 2. *Cladorhiza abyssicola*, 3. *Hyalonema longissimum*). Each species is illustrated by numerous beautiful figures of the animals and their details by Mr. George Sars, which are engraved on six closely packed quarto plates. Many of the species described were found and described by Prof. Sars; and the account of them has been carefully revised by his son. The work will be continued if Mr. Sars can "obtain the necessary assistance." It is to be hoped that the sale of so important and so conscientious a contribution to this branch of zoology will obtain sufficient support to enable it to be completed.

MISCELLANEOUS.

On Noctiluca miliaris, *Sur.* By M. L. Cienkowski.

M. Cienkowski has found *Noctiluca miliaris* in abundance at Odessa, from which place it extends on one side into the Sea of Azov, and on the other as far as Smyrna.

The only new information on the organization of the adult animal that we find in his memoir is—the description of a papilla upon which is inserted the vibratile filament discovered by Krohn, and some details as to the movements of the protoplasm which take place in the interior of the nucleus. But the portion relating to the reproduction of this curious organism is of more importance, and contains interesting observations which extend and correct our knowledge on this subject.

M. Cienkowski confirms the facts of reproduction by division described by Mr. Brightwell. This division is observed both in encysted *Noctilucæ* and in those which present the normal structure. In the encysted *Noctilucæ* the tentacle appears before the separation of the two individuals is completed; in the normal *Noctilucæ*, on the contrary, two tentacles may be found at the commencement of the period of constriction.

Numerous observations on the regeneration of the different parts of the animal, checked by artificial removals of larger or smaller portions of the body, have convinced M. Cienkowski that the forms described by Busch as young *Noctilucæ* produced by an internal gemmation cannot be so interpreted. They are simply portions of protoplasm in process of reproduction. When an individual has been deprived of a portion of its substance, it is able to complete itself. It would even seem that portions of protoplasm issuing from the body under the action of compression may give birth to new complete individuals.

The author has followed more completely than before* the mode

* Cienkowski, "Ueber Schwärmerbildung bei *Noctiluca miliaris*," Arch. für mikr. Anat. vii. (1871) p. 131.